

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP 2004/005376

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl<sup>7</sup> H04L 5/04, H02J 13/00, H04Q 9/00, H04L7/00, H04L25/49

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl<sup>7</sup> H04L 5/04, H02J 13/00, H04Q 9/00, H04L7/00, H04L25/49

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
 Japanese Utility Model Gazette 1922-1996, Japanese Publication of Unexamined Utility Model  
 Applications 1971-2004, Japanese Registered Utility Model Gazette 1994-2004, Japanese Gazette  
 Containing the Utility Model 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 53-12215 A (NEC Co., Ltd.) 1978.02.03, Fig 6 (Family•none)	1, 8
Y		2, 3, 4, 6, 11
A		5, 7, 9, 10, 12
Y	JP 8-79075 A (BURR-BROWN CORPORATION) 1996.03.22, Fig 2 & US 5856799 A	2, 3, 4
Y	JP 2-185132 A (NEC Co., Ltd.) 1990.07.19, Fig 2 (Family•none)	6, 11
X	JP 2002-101044 A (Fuji Xerox Co., Ltd.) 2002.04.05, line 20, column 7, page 5 to line 17, column 8, page 5 (Family•none)	1, 8
A		2-7, 9-12



Further documents are listed in the continuation of Box C.



See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

23.07.2004

Date of mailing of the international search report

10.8.2004

Name and mailing address of the ISA/JP

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 4-91637 A (Mitsubishi Electric Co., Ltd.) 1992.03.25, Fig1-3 (Family•none)	13,14
Y		15,16
A		17
Y	JP 4-322140 A (TOSHIBA Co., Ltd.) 1992.11.12, Fig4 (Family•none)	13-16
A		17
Y	JP 3-221696 A (Matsushita Electric Works, Ltd.) 1991.09.30, Fig1,2 (Family•none)	13-16
A		17
Y	JP 5-122759 A (FUJITSU Co., Ltd.) 1993.05.18, Fig3 (Family•none)	15,16
X		18,19
A	JP 57-44209 A (SHARP Co., Ltd.) 1982.03.12, Fig2 (Family•none)	20-29
A		18-29
A	JP 61-235246 A (Robert Bosch GmbH) 1986.10.20, Figure &US 4739309 A &FR 2579801 A &DE 3511968 A &DE 3511968 C2 &IT 1191710 B	18-29
A	JP 1-309448 A (Oki Electric Industry Co., Ltd.) 1989.12.13, Fig1 (Family•none)	18-29

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**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

The separate groups of invention are not so linked as to form a single general inventive concept for the following reasons:

The "special technical features" of claim 1-12 relates to [a signal transmitting apparatus for sending and receiving a plurality of digital input signals input to said signal transmitting apparatus through a single signal line, said signal transmitting apparatus].

The "special technical features" of claim 13-17 relates to [the power supplying system for supplying a power from a plurality of the power supplying devices to a plurality of loads, said power supplying system].

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐  
☒

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

Continuation of:III

The "special technical features" of claim 18-29 relates to [a serial communication apparatus for conducting a serial communication by a half-duplex communication between a first sending/receiving circuit and a second sending/receiving circuit in that at least one first sending/receiving circuit is connected to at least one second sending/receiving circuit through a transmission channel, wherein each of said first sending/receiving circuit and said second sending/receiving circuit].

There is no technical relationship among those inventions involving one or more of the same or corresponding technical features. Therefore, these groups of inventions are not so linked as to form a single general inventive concept.

And the separate groups of invention claim1-12 are not so linked as to form a single general inventive concept for the following reasons:

A common technical features" of claim 1-12 is the subject matter of claim 1.

However the subject matter of claim 1 does not appear to be novel with respect to D1 = [JP 53-12215 A] and D4 = [JP 2002-101044 A].

The "special technical features" of claim1-5 relates to the subject matter of claim 2.

The "special technical features" of claim6,7,11,12 relates to the subject matter of claim 6.

The "special technical features" of claim 8-10 relates to the subject matter of claim 8.